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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/786,777	03/09/2001	Askold Meusling	P01,0060	6571

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STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER	
MEW, KEVIN D	
ART UNIT	PAPER NUMBER
2664	

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/786,777	MEUSLING, ASKOLD	
	Examiner	Art Unit	
	Kevin Mew	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 March 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *3/9/2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

Specification

1. The abstract of the disclosure is objected to because the abstract should not include the title of the application as shown in the first paragraph of the abstract. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "far, far greater than" in claim 20 is a relative term which renders the claim indefinite. The term "far, far greater than" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The limitation "the second transmission path is far, far greater than the first transmission path" does not specify what parameter is being measured to determine how the second transmission path is far greater than the first transmission path. Therefore, this renders the claim indefinite.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claim 23** is rejected under 35 U.S.C. 102(b) as being anticipated by Hsu (USP 5,005,936).

Regarding claim 23, Hsu discloses a method for forming an overall signal a current signal (second carrier) and at least one of a first communication signal (second modulating signal; note that the second modulating signal in Hsu is interpreted as the first communication signal here while the first modulating signal in Hsu is interpreted as the second communication signal here) with first payload data that require large first bandwidth in transmission (impress upon the second carrier a second modulating signal onto the second end of the optical fiber, see lines 18-25, col. 2) and a second communication signal (first modulating signal; note that the first modulating signal in Hsu is interpreted as the second communication signal here while the second modulating signal in Hsu is interpreted as the first communication signal here) with second payload data differing from the first payload data that require a smaller second bandwidth compared to the first bandwidth (impress upon the first carrier a first modulating signal onto the first end of the optical fiber, see lines 13-17, col. 2, and a first frequency spectrum is smaller than a second frequency spectrum, see lines 25-26, col. 2), comprising the steps of:

modulating at least one of the first communication signal in first frequency range (impress upon a second carrier a second modulating signal spanning a second frequency spectrum, see lines 22-25, col. 2) and the second communication signal in a second frequency range onto the current signal (impress upon a first carrier a first modulating signal spanning a first frequency spectrum, see lines 16-17, col. 2);

the first frequency range least partially comprising a frequency range of frequencies higher than the second frequency range (second frequency spectrum is higher than the first spectrum; note that the second frequency spectrum in Hsu is interpreted as the first frequency range here, see lines 24-25, col. 2); and

providing the modulation of the first communication signal in the first frequency range (impress upon a second carrier a second modulating signal spanning a second frequency spectrum, see lines 22-25, col. 2) such that a quality (optical energy) of the first payload data does not fall below a predetermined quality (optical energy values in accordance with W1 and W2) given a transmission of the current signal with the first communication signal modulated (the optical carrier wavelength of the second carrier is kept between W1 and W2 of a transmission window that the optical energy passing through the optical fiber is bound between the optical energy values in accordance with these wavelengths, see lines 60-67, col. 2 and lines 1-2, col. 3) and hence the light energy passing) thereonto via first transmission path (onto the second end of the fiber, see lines 18-20, col. 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 15-16, 18-21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu (USP 5,005,936) in view of Vaerewyck et al. (USP 4,428,017).

Regarding claim 15, Hsu discloses a communication system, comprising:

first communication unit (receiver, see element 64, Fig. 1) that makes communication signal available with first that require a large, first bandwidth in the transmission (the bandwidth of the receiver 64 is higher than the bandwidth of the receiver 58, see lines 41-47, col. 4);

second communication unit (receiver, see element 38) that makes second communication signal available with second payload data different from the first payload data and that require smaller, second bandwidth compared to the first bandwidth (as the spectral bandwidth of the downlink signal is proportionately larger than that of the uplink, the bandwidth of the receiver 64 is designed to be larger than the bandwidth of the receiver 58, see lines 41-47, col. 4);

first modulation unit (T1 driver, see element 40, Fig. 1) with which the first communication signal (digital current waveform from the T1 driver is used to modulate an optical carrier, see lines 44-48, col. 3) is modulated onto the current signal (optical carrier) in a first frequency range (to form a relatively wideband signal is spanning the first frequency spectrum, see lines 50-54, col. 3);

second modulation unit (T2 driver, see element 46, Fig. 1) with which the second communication signal is modulated onto the current signal (digital current waveform from the T2 driver is used to modulate an optical carrier) in a second frequency range (to form a signal in a second frequency spectrum, see lines 60-67, col. 3 and lines 1-6, col. 4); and

the modulation units being configured such that, when the communication signals are modulated, the first frequency range at least partially comprises a frequency range of frequencies higher than the second frequency range (as the spectral bandwidth of the downlink signal is proportionately larger than that of the uplink, the bandwidth of the receiver 64 is designed to be larger than the bandwidth of the receiver 58, see lines 41-47, col. 4), and in that the modulation of the first communication signal implemented in a first frequency range (impress upon a first carrier a first modulating signal spanning a first frequency spectrum, see lines 13-25, col. 2) such that a quality (optical energy) of the first payload data does not below a predetermined quality given transmission of current signal the first communication signal modulated (the optical carrier wavelength of the second carrier is kept between W1 and W2 of a transmission window so that the optical energy passing through the optical fiber is bound between the optical energy values in accordance with these wavelengths, see lines 60-67, col. 2 and lines 1-2, col. 3) thereonto first transmission path in the energy supply network (onto the second end of the fiber, see lines 18-20, col. 2).

Hsu does not explicitly show an energy supply network that makes current signal available. However, Vaerewyck discloses a power signal with a phase and an magnitude generated that is by a power supply is transmitted as an optical signal by an optical fiber

(see lines 34-54, col. 2 and elements 10, 16, Fig. 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical fiber transmission medium of Hsu with the teaching of a signal generation and transmission technique (see element 3, Fig. 1) of Vaerewyck such that signals generated by a power supply will be carried through the optical fiber of as an optical signal such as the one taught by Vaerewyck. The motivation to do so is to allow the generation of a carrier signal with a desired frequency and the transmission of the carrier signal through a high speed optical fiber because optical fiber transmission will meet the high data rate demand of multimedia data traffic.

Regarding claim 16, Hsu discloses the communication system according 15 wherein the second payload data are a request message (subscriber commands, see lines 55-62, col. 7) and the first payload data are a reply message (system audio/video television data, see lines 55-62, col. 7).

Regarding claim 18, Hsu discloses the communication system according 15 wherein the first transmission path is part of energy supply network building (the first direction path is transmitting system audio/video data to the subscriber at a high rate and the subscriber's cable television receiver is plugged to a power outlet and is part of the energy supply building, see lines 55-60, col. 7).

Regarding claim 19, Hsu discloses the communication system according to claim wherein the current signal with second communication signal modulated thereon is

transmitted via a second transmission path in the energy supply network (subscriber commands are sent from the subscriber at a low data rate via the opposite direction path, see lines 55-62, col. 7).

Regarding claim 20, Hsu discloses the communication system according claim 19 wherein the second transmission path far, far greater than the first transmission path (the optical wavelength W2 being used to support a lower data rate in the second transmission path is greater than the optical wavelength W1 being used to support a high data rate in the first transmission path, see lines 44-67, col. 3 and lines 1-7, co. 4).

Regarding claim 21, Hsu discloses the communication system according 19 wherein at least one of the first communication unit and second communication unit is part of a communication network (receivers 58 and 64 are part of the optical fiber communication system as shown in Fig. 1).

5. **Claim 17** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu in view of Vaerewyck et al. (USP 4,428,017), and in further view of Ogilvie et al. (USP 6,324,650)

Regarding claim 17, Hsu discloses all the aspects of the claimed invention set forth in the rejection of claim 15 above, the communication system according to claim 15 wherein the payload data are encoded according transport control protocol/Internet protocol TCP/IP.

Hsu does not explicitly show encoding the payload data according to a transport control protocol/Internet protocol TCP/IP.

However, Ogilvie discloses using TCP/IP over optical fiber cables (see lines 4-8, col. 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical fiber transmission medium of Hsu with the teaching of TCP/IP protocol over optical fibers in Ogilvie such that the payload data transmitted through the optical fibers of Hsu will be encoded in TCP/IP protocol. The motivation to do so is to use TCP/IP protocol as a networking protocol that provides communication across interconnected networks, between computers with diverse hardware architecture and various operating systems and to use optical fiber as the transmission medium so that a high data rate of transmission and capacity will be achieved.

6. **Claim 22** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu in view of Vaerewyck et al. (USP 4,428,017), and in further view of Isono et al. (USP 6,216,171)

Regarding claim 22, Hsu and Vaerewyck disclose all the aspects of the claimed invention set forth in the rejection of claim 21 above, except fail to disclose the communication system according claim 21 wherein the communication network is a worldwide web WWW. However, Isono discloses a CATV system in which data is communicated between the Internet and the CATV home terminal via the optical fiber (see lines 15-26, col. 6 and Fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical fiber

transmission medium of Hsu with the teaching of coupling the Internet with optical fibers such that the optical fiber system of Hsu is connected to the worldwide web such as the Internet and fiber optics coupling taught by Isono. The motivation to do so is to allow data communicated between the home CATV system and the Internet at a higher data rate because optical fibers support higher data rates and bandwidths to meet the demands of multimedia data traffic.

7. **Claim 24** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu in view of Ogilvie et al. (USP 6,324,650).

Regarding claim 24, Hsu dislcoses a method for forming an overall signal from a current signal and at least one of first communication signal with first payload data as a reply message that require large first bandwidth in transmission and a second communication signal with second payload data as a request message differing from the first payload data that require a smaller second bandwidth compared to the first bandwidth comprising the steps of:

modulating at least one of the first communication signal in a first frequency range (impress upon the second carrier a second modulating signal onto the second end of the optical fiber, spanning a second frequency spectrum, see lines 18-25, col. 2) and second communication signal in a second frequency range onto the current signal (impress upon the first carrier a first modulating signal onto the first end of the optical fiber, spanning a first frequency spectrum, see lines 13-17, col. 2; note that the second modulating signal in Hsu is interpreted as the first communication signal here while the first modulating signal in Hsu is interpreted as the second communication signal here);

the first frequency range at least partially comprising a frequency range of frequencies higher than the second frequency range (second frequency spectrum is higher than the first spectrum; note that the second frequency spectrum in Hsu is interpreted as the first frequency range here, see lines 24-25, col. 2); and

providing the modulation of the first communication signal in the first frequency range (impress upon a second carrier a second modulating signal spanning a second frequency spectrum, see lines 22-25, col. 2) such a quality (optical energy values in accordance with W1 and W2) of the first payload data does not fall below predetermined quality given a transmission of the current signal with the first communication signal modulated (the optical carrier wavelength of the second carrier is kept between W1 and W2 of a transmission window that the optical energy passing through the optical fiber is bound between the optical energy values in accordance with these wavelengths, see lines 60-67, col. 2 and lines 1-2, col. 3) thereonto via a first transmission path in the energy supply network (onto the second end of the fiber, see 18-20, col. 2).

Hsu does not explicitly show encoding the payload data according to a transport control protocol/Internet protocol TCP/IP.

However, Ogilvie discloses using TCP/IP over optical fiber cables (see lines 4-8, col. 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical fiber transmission medium of Hsu with the teaching of TCP/IP protocol over optical fibers in Ogilvie such that the payload data transmitted through the optical fibers of Hsu will be encoded in TCP/IP protocol. The motivation to do so is to use TCP/IP protocol as a networking protocol that provides communication across interconnected networks, between computers with diverse

hardware architecture and various operating systems and to use optical fiber as the transmission medium so that a high data rate of transmission and capacity will be achieved.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure with respect to system and method for forming and transmitting an overall signal in a communications network.

US Patent 6,400,679 to Suzuki

US Patent 4,809,296 to Braun et al.

US Patent 5,684,450 to Brown

US Patent 5,726,980 to Rickard

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Mew whose telephone number is 703-305-5300. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 703-305-4366. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600